(No Model.) 2 Sheets—Sheet 1.

I. W. SHALER.

CARBURETOR.

No. 257,247. Patented May 2, 1882.

Fig. 1.

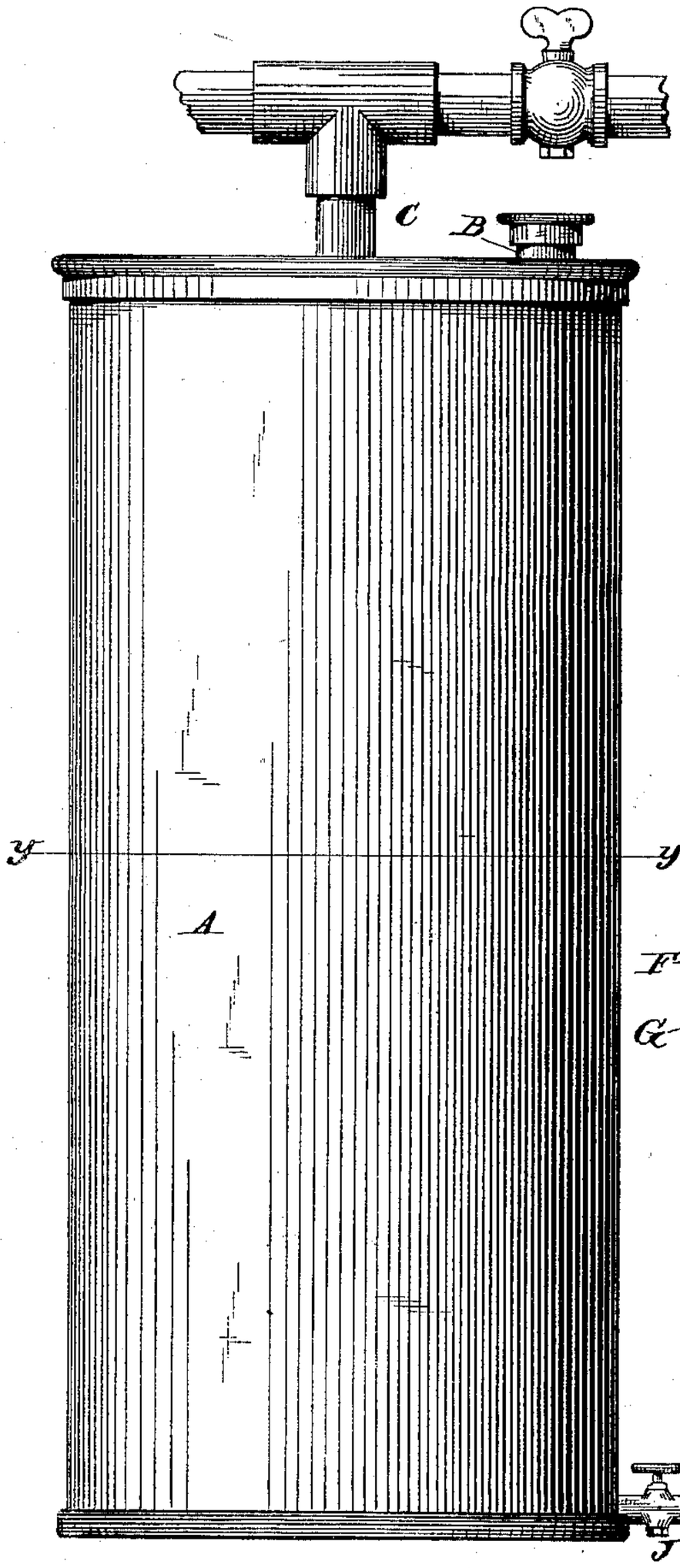
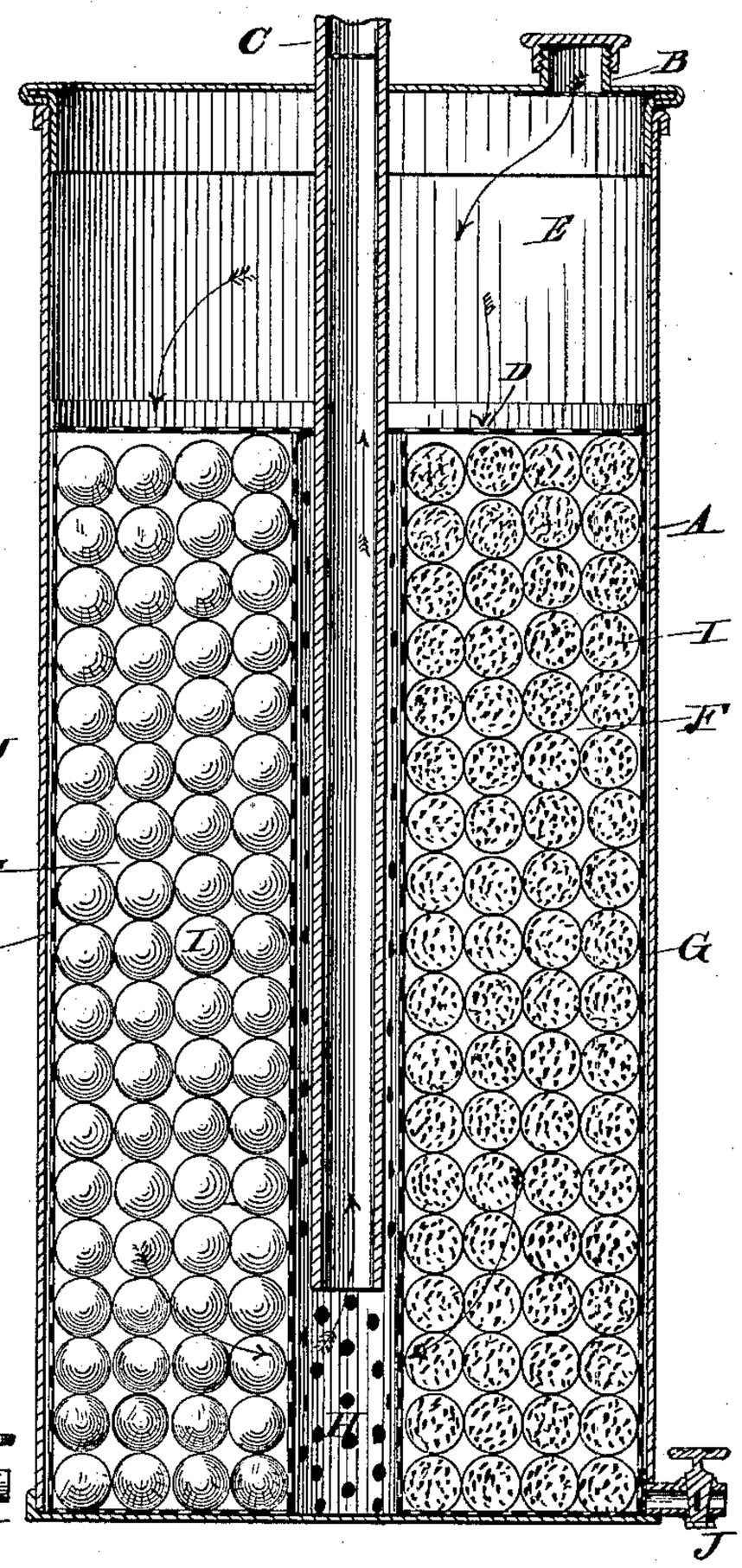


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

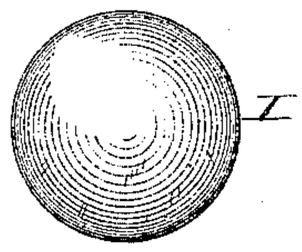


Fig. 5.

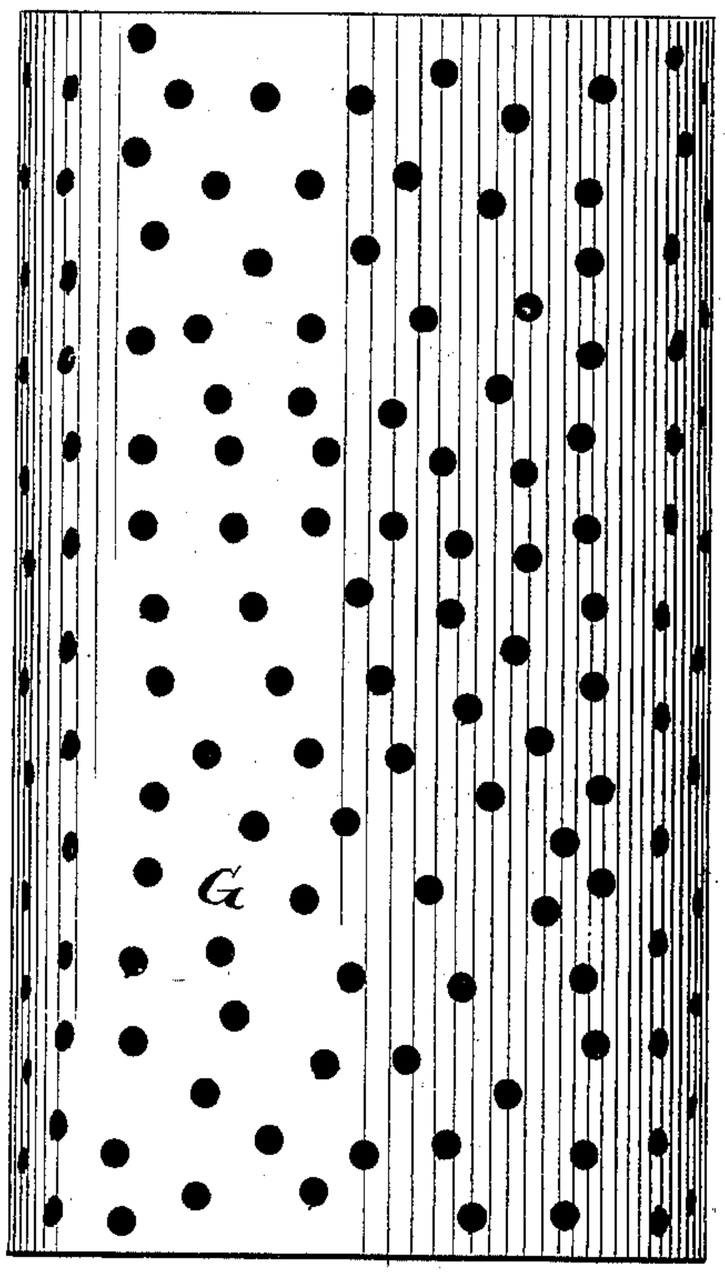


Fig. 6.

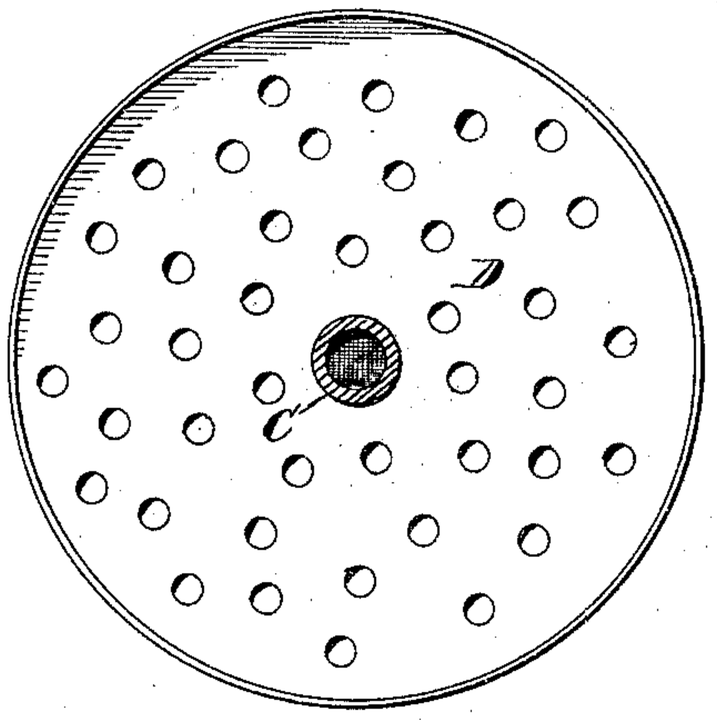
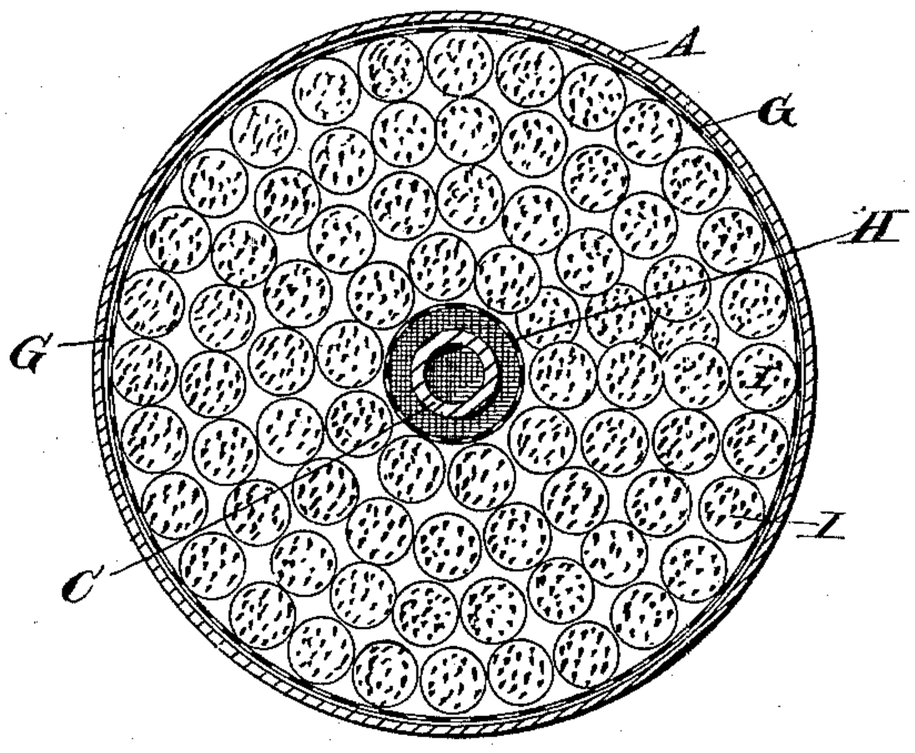


Fig. 3.



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UNITED STATES PATENT OFFICE.

IRA W. SHALER, OF BROOKLYN, NEW YORK.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 257,247, dated May 2, 1882.

Application filed January 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, IRA W. SHALER, a citizen of the United States of America, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Carburetors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side elevation. Fig. 2 is a vertical section. Fig. 3 is a cross-section taken on the line *y y* of Fig. 1. Fig. 4 is a side elevation of one of the composite globes or balls into which the absorbent is formed. Fig. 5 is a side elevation of the cylinder G. Fig. 6 is a top view of the partition D, showing the pipe C in cross-section.

My invention relates to improvements in devices for enriching gas and carbureting air, and has for its object the providing of a simple, cheap, and efficient gas or air carburetor, which will be safe against explosion in case of fire or ignition by careless treatment or design; and it consists in the construction and arrangement of parts and of the composition and formation of the absorbent, as will be hereinafter more fully set forth.

A represents the reservoir or outer shell of the carburetor; B, the inlet-pipe for the air or gas, and C the outlet-pipe, that may communicate with other pipes or have a burner or service-pipe attached to it, as may be required.

In constructing this device the inlet and outlet pipes for the gas or air are placed in the top of the reservoir, and extend above it for the purpose of preventing gas or carbureted air from flowing through them except when the outlet-pipe is opened and a current of air or gas established through the carburetor. This construction prevents absolutely the escape of oil into the distributing-pipes through the overcharging of the carburetor.

The reservoir is divided into two compartments or chambers by a partition, D, made of wire matting or gauze. The upper compartment, E, includes all that part of the reservoir above the partition D, which is ordinarily about one-fourth of the reservoir, and constitutes an air-chamber. The inlet-pipe B opens into the top of the chamber E, and the outlet-pipe C passes through the top, at or near the center, through the air-chamber E and partition D, and down to a point near the bottom of the reservoir. The lower compartment, F, contains a hollow cylinder, G, made of wire matting or gauze, and is provided with a bottom of any suitable material, from which projects upward, from a point at or near the center, a tube, H, of perforated metal, for the passage of the outlet-pipe C to a point near the bottom of the reservoir. The tube H is of sufficient diameter to permit the easy passage of the pipe C, and the hollow cylinder G is of sufficient diameter to pass freely into the reservoir.

The hollow cylinder G, between the tube H and the sides of the cylinder, is filled with the absorbent of the carburetor that holds the light products of petroleum, giving the same off by evaporation to a current of air or gas as it passes through it. The absorbent is composed of granulated peat, two-thirds, by measure, and plaster-of-paris or any other suitable porous material for uniting the peat and forming it into globes or spheres I, one-third.

In preparing the globes I the dry granulated peat is mixed with ground plaster-of-paris, saturated with water, and formed into globes by a machine especially constructed for the purpose. During this process the plaster sets. The globes are then allowed to dry, becoming porous bodies, and, being true spheres, when the chamber F is filled with them but a small portion of their surface is covered by contact, the most of it being exposed to the current of air or gas that passes from the air-chamber E down through partition D, and, searching its way between the globes, reaches the lower end of the exit-pipe C and passes out surcharged with hydrocarbon gathered from the globes.

In charging the carburetor any of the volatile oils may be used. Poured into the inlet-pipe B, it distributes itself over the partition D and finds its way down through the globes I from one to another by capillary attraction until all the globes are saturated. All surplus of oil, if any there be, settles to the bottom, where it is drawn off through a spigot, J, the

intention being to leave no oil in the reservoir other than that which is absorbed by the globes I.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In combination with a carburetor, a porous absorbent packing consisting of a composition of peat and plaster-of-paris mixed and pressed into spheres, substantially as shown and described.

2. In a carburetor, the combination, substantially as shown, of an outlet-pipe, extending from near the bottom of the carburetor to and out of the top, with an inclosing perforated tube, H, extending through the absorbent chamber, an air-chamber, and shell provided with an inlet-pipe, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

IRA W. SHALER.

Witnesses:
WM. G. HENDERSON,
H. S. ABBOT.